

WHAT IS CLAIMED IS:

1. A switch, comprising:
 - a) a photoimaged channel plate defining at least a portion of a number of cavities, a first of which is defined by a first channel formed in the photoimaged channel plate;
 - 5 b) a plurality of wettable pads exposed within one or more of the cavities;
 - c) a switching fluid, wettable to said pads and held within one or more of the cavities, that serves to open and block light paths through one or more of the cavities in response to forces that are applied to the switching fluid; and
 - 10 d) an actuating fluid, held within one or more of the cavities, that serves to apply said forces to the switching fluid.
2. The switch of claim 1, wherein the photoimaged channel plate comprises a plurality of dielectric layers, and wherein at least two of the dielectric layers comprise photoimaged channels defining different subsets of said number of cavities.
3. The switch of claim 1, wherein the first channel defines at least a portion of the one or more cavities that hold the switching fluid.
4. The switch of claim 3, wherein:

- a) a second channel formed in the photoimaged channel plate defines at least a portion of the one or more cavities that hold the actuating fluid; and

5 b) a third channel formed in the photoimaged channel plate defines at least a portion of one or more cavities that connect the cavities holding the switching and actuating fluids.

5. The switch of claim 1, wherein the channels formed in the photoimaged channel plate comprise a channel that defines at least a portion of the one or more cavities that hold the switching fluid, a pair of channels that define at least a portion of the one or more cavities that hold the actuating fluid, and a pair of channels connecting corresponding ones of the channels that hold the actuating fluid to the channel that holds the switching fluid.

6. A switch, comprising:

- a) a photoimaged channel plate defining at least a portion of a number of cavities, a first cavity of which is defined by a first channel formed in the photoimaged channel plate;

5 b) a switching fluid, held within one or more of the cavities, that is movable between at least first and second switch states in response to forces that are applied to the switching fluid.

7. The switch of claim 6, wherein the photoimaged channel channel plate comprises a plurality of dielectric layers, and wherein at least two of the dielectric layers define different subsets of said number of cavities.
8. The switch of claim 7, wherein at least one of the dielectric layers comprises DuPont® Fodel® dielectric material.
9. The switch of claim 7, wherein at least one of the dielectric layers comprises Heraeus-KQ dielectric material.
10. The switch of claim 6, wherein the first channel defines at least a portion of the one or more cavities that hold the switching fluid, and wherein a second channel formed in the photoimaged channel plate defines at least a portion of a cavity from which the forces are applied to
5 the switching fluid.